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(54) **Cleansing element comprising a cleansing agent, and toilet brush comprising said element**

(57) Cleansing element (4) in particular intended for toilet cleansing, comprising a cleansing agent (7), said cleansing agent comprising an effervescent agent which effervesces after contacting with water. Upon contacting

water, the effervescent agent will effervesce, and foam formation will occur. Said cleansing agent may further comprise an alkyltrimethylammonium halide. The cleansing agent is preferably a solid, most preferably in pill form (7).

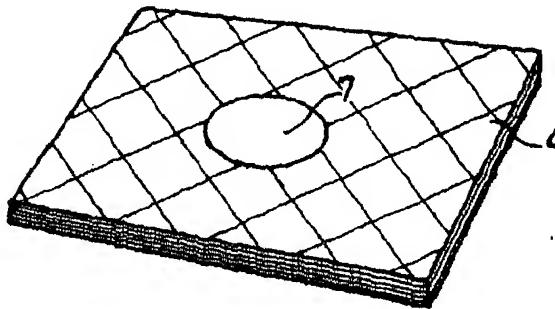


FIG: 3.

**Description**

[0001] The present invention in the first place relates to a cleansing element in particular intended for toilet cleansing, comprising a cleansing agent.

[0002] Such cleansing elements are well known in the art. For example US-A-4 031 673 discloses cleansing elements in the form of water disintegratable pads which are provided with a cleansing agent. Said pads are releasably attached to the head of a cleansing device comprising a handle part and a head.

[0003] Although such cleansing devices using these known pads provide adequate cleansing action. Said cleansing action however still leaves to be desired and therefore a demand exists for cleansing elements having improved cleansing action.

[0004] The present invention intends to provide such a cleansing element and to that end is characterized in that said cleansing agent comprises an effervescent agent which effervesces after contacting with water.

[0005] Many of the known cleansing agents will during the cleansing action of the cleansing element form a foam or mousse. However, the formation thereof is dependent on the intensity of the cleansing action by the user. With the cleansing element according to the invention, comprising the effervescent agent, which effervesces after contacting with water, foam formation will occur automatically and therefore the cleansing action, which is dependent on the quality of the foam being present, will be substantially improved.

[0006] Preferably said cleansing agent further comprises a cationic surface active agent (surfactant), and more preferably a quaternary ammonium based surfactant, and most preferably an alkyl trimethylammonium halide.

[0007] The presence of an alkyl trimethylammonium halide has the advantage that the foam or mousse formed by the effervescent agent will be stabilised. Further the alkyl trimethylammonium halide will act as a disinfectant. Advantageously the alkyl trimethylammonium halide is cetyl trimethylammonium halide. In particular the alkyl trimethyl ammonium halide is an alkyl trimethyl ammonium bromide.

[0008] The effervescent agent according to the invention is not specifically limited preferably it is selected from the mono alkyl salt of carbonic acid, and more preferably sodium bicarbonate, combined under dry conditions to the anhydrous forms of water soluble hydroxy-acids, preferably citric acid.

[0009] The cleansing agent in the cleansing element according to the invention is not limited with regard to other constituents. In particular the cleansing agent further may comprise one or more of

- a hygroscopic agent;
- an abrasive;
- a sequestrant;
- a fragrance; and

- a dye.

[0010] In a preferred embodiment the cleansing agent comprises:

5 10-90 % by weight of sodium bicarbonate;  
5-40 % by weight of citric acid;  
1-20 % by weight of anhydrous magnesium sulphate;  
10 0.5-30 % by weight of alkyl trimethylammonium halide;  
0-1 % by weight of fragrance  
0-80 % by weight of Ca<sub>2</sub>C<sub>0</sub>3  
15 0-3 % by weight of a dye.

[0011] In a further preferred embodiment the cleansing agent comprises:

20 25-70 % by weight of sodium bicarbonate;  
20-40 % by weight of citric acid;  
1-15 % by weight of anhydrous magnesium sulphate;  
15-30 % by weight of alkyl trimethylammonium halide;  
25 0-1 % by weight of fragrance  
0-40 % by weight of Ca<sub>2</sub>C<sub>0</sub>3  
0-1 % by weight of dye.

[0012] In a most preferred embodiment the cleansing agent comprises:

30 35-40 % by weight of sodium bicarbonate;  
25-35 % by weight of citric acid;  
5-10 % by weight of anhydrous magnesium sulphate;  
35 0.5-5 % by weight of cetyl trimethylammonium bromide;  
0-1 % by weight of fragrance  
15-25 % by weight of Ca<sub>2</sub>C<sub>0</sub>3  
40 0-0.5 % by weight of FD&C blue No 1 dye.

[0013] The physical form of the cleansing agent in the cleansing according to the invention is not limited. However, preferably the effervescent agent is shielded from contact with humidity present in the environment. For example a protective coating may be present, which however will dissolve or dispose when contacted with water during cleansing.

[0014] The cleansing element is preferably a solid like e.g. granules, a tablet, pill or the like. Most preferred the cleansing agent is present in the cleansing elements in pill form.

[0015] The cleansing element may be manufactured using the regular materials therefor. It is preferred to manufacture said element of water disintegratable or soluble materials. Advantageously the cleansing element is manufactured of cellulosic fibres.

[0016] More advantageously said cleansing element

comprises laminated paper sheets, the cleansing agent being sandwiched between two sheets.

[0017] The invention further provides a toilet brush comprising a handle, a cleansing head and a cleansing element attached to the head, characterized in that the cleansing element is a cleansing element according to the invention.

[0018] The invention finally provides a cleansing agent obviously intended for a cleansing element according to the invention. Said cleansing agent is preferably in solid form, more preferably in pill form.

[0019] In the following the invention will be illustrated with reference to the appended drawings; in which

fig. 1 shows a diagrammatic view of a toilet brush with a cleansing element according to the invention; fig. 2 shows a cleansing element according to the invention with a cleansing agent in granular form; fig. 3 shows another embodiment of a cleansing element according to the invention with a cleansing agent in pill form.

[0020] In fig. 1 a toilet brush 1 is shown comprising a handle 2 and a head 3. To the head 3 a cleansing element 4 according to the invention is attached. The way of attaching the cleansing element to the head 3 is not critical and many ways are known in the art. For example temporary adhesives, mechanical releasable attachments, frictional attachments, etc.

[0021] In fig. 2 in a perspective view a cleansing element 4 according to the invention is shown comprising a laminated compressed stack of paper sheets 5 onto which a granular cleansing agent 6 is adhesed. Apart from using an adhesive to attach the cleansing agent 6 to the cleansing element 4 it is also possible to insert the cleansing agent between two sheets of paper 5.

[0022] Finally fig. 3 shows a cleansing element 4 according to the invention comprising a cleansing element comprised of papier maché onto which a cleansing agent 7 in pill form is adhesed.

[0023] As an adhesive all kinds of adhesives can be used, however preferably an adhesive which is not water-soluble.

### Claims

1. Cleansing element in particular intended for toilet cleansing, comprising a cleansing agent, characterized in that said cleansing agent comprises an effervescent agent which effervesces after contacting with water.
2. Cleansing element according to claim 1, characterized in that said cleansing agent further comprises a cationic surface active agent.
3. Cleansing element according to claim 2, characterized in that said cationic surface active agent is a quaternary ammonium based surfactant and preferably an alkyl trimethyl ammonium halide.

4. Cleansing element according to claim 3, characterized in that said alkyl trimethylammonium halide is an alkyl trimethylammonium bromide.

5. Cleansing element according to one or more of claims 1 - 4, characterized in that the cleansing agent further comprises one or more of

- an hygroscopic agent;
- an abrasive;
- a sequestrant;
- a fragrance; and
- a dye.

6. Cleansing element according to one or more of the preceding claims, characterized in that the cleansing agent comprises:

10-90 % by weight of sodium bicarbonate;  
5-40 % by weight of citric acid;  
1-20 % by weight of anhydrous magnesium sulphate;  
0.5-30 % by weight of alkyl trimethylammonium halide;  
0-1 % by weight of fragrance  
0-80 % by weight of Ca<sub>2</sub>C<sub>03</sub>  
0-3 % by weight of a dye.

7. Cleansing element according to claim 6, characterized in that the cleansing agent comprises:

25-70 % by weight of sodium bicarbonate;  
20-40 % by weight of citric acid;  
1-15 % by weight of anhydrous magnesium sulphate;  
0.5-10 % by weight of alkyl trimethylammonium halide;  
0-1 % by weight of fragrance  
0-40 % by weight of Ca<sub>2</sub>C<sub>03</sub>  
0-1 % by weight of dye.

8. Cleansing element according to claim 7, characterized in that the cleansing agent comprises:

35-40 % by weight of sodium bicarbonate;  
25-35 % by weight of citric acid;  
5-10 % by weight of anhydrous magnesium sulphate;  
0.5-5 % by weight of cetyl trimethylammonium bromide;  
0-1 % by weight of fragrance  
15-25 % by weight of Ca<sub>2</sub>C<sub>03</sub>  
0-0.5 % by weight of FD&C blue No 1 dye.

9. Cleansing element according to one or more of the preceding claims, **characterized in that** the cleansing agent is present in the cleansing element in pill form.

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10. Cleansing element according to one or more of the preceding claims, **characterized in that** the cleansing element is manufactured from cellulosic fibres.

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11. Cleansing element according to claim 10, **characterized in that** said cleansing element comprises laminated paper sheets and that the cleansing agent is sandwiched between two sheets.

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12. Toilet brush comprising a handle, a cleansing head and a cleansing element attached to the head, **characterized in that** the cleansing element is a cleansing element according to one or more of claims 1-10.

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13. Cleansing agent obviously intended for a cleansing element according to one or more of claims 1-11.

14. Cleansing agent according to claim 13, **characterized in that** the cleansing agent is in pill form.

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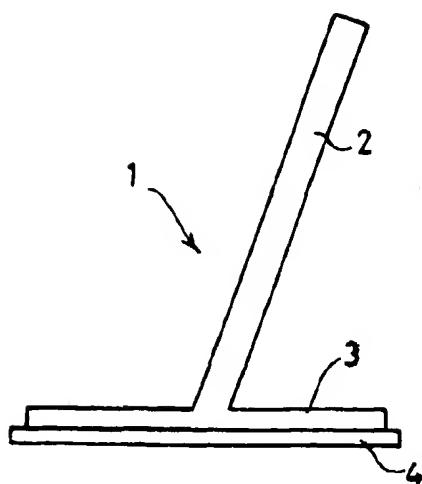


FIG: 1.

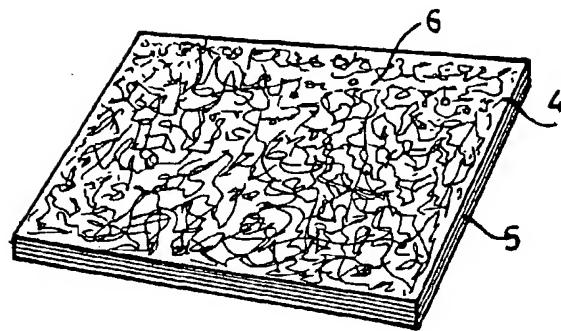


FIG: 2.

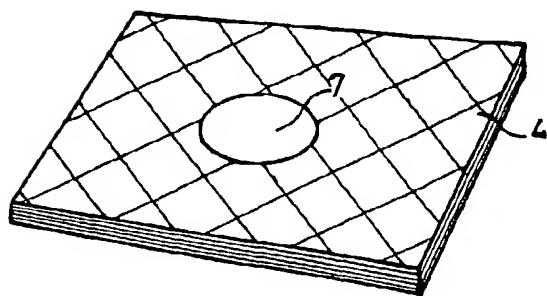


FIG: 3.



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## EUROPEAN SEARCH REPORT

Application Number  
EP 00 20 0929

DOCUMENTS CONSIDERED TO BE RELEVANT									
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)						
X	US 4 852 201 A (WUNDROCK JOHN A ET AL) 1 August 1989 (1989-08-01) * column 2, line 41 - line 45 * * column 3, line 26 - line 57 * * column 5, line 53 - line 60 * ----	1-14	C11D17/04 C11D3/00 A47K11/10 //C11D1/62						
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A	WO 87 00022 A (VON KAENEL ERIKA) 15 January 1987 (1987-01-15) * claims 1-8 *----	1							
A	US 5 945 076 A (LEONARD STEPHEN B ET AL) 31 August 1999 (1999-08-31) * claims 1-13 *----	1							
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)						
			C11D A47K						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 33%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>4 July 2000</td> <td>Richards, M</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	4 July 2000	Richards, M
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THE HAGUE	4 July 2000	Richards, M							
<p>CATEGORY OF CITED DOCUMENTS</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;">           X : particularly relevant if taken alone            Y : particularly relevant if combined with another document of the same category            A : technological background            O : non-written disclosure            P : intermediate document         </td> <td style="width: 50%; vertical-align: top;">           T : theory or principle underlying the invention            E : earlier patent document, but published on, or after the filing date            D : document cited in the application            L : document cited for other reasons            &amp; : member of the same patent family, corresponding document         </td> </tr> </table>				X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document				
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document								

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